

1 Attorney Docket No. 79530

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3 SEPARATED FLOW LIQUID CATHOLYTE ALUMINUM

4 HYDROGEN PEROXIDE SEAWATER SEMI-FUEL CELL

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6 ABSTRACT OF THE DISCLOSURE

7 The present invention relates to an improved semi-fuel cell
8 and an improved cathode used therein. The semi-fuel cell stack
9 comprises a housing, an anode within the housing, a porous
10 cathode within the housing, an aqueous catholyte within the
11 housing, an aqueous anolyte stream flowing in the housing, and a
12 membrane for preventing migration of the catholyte through the
13 porous cathode and into the anolyte stream. In a preferred
14 embodiment of the present invention, the catholyte comprises an
15 aqueous hydrogen peroxide solution, the anolyte comprises a
16 NaOH/seawater solution, and the membrane permits passage of OH^-
17 ions while inhibiting the passage of hydrogen peroxide. The
18 membrane is attached to a surface of the cathode or
19 alternatively, impregnated into the cathode.